

## VERSION WITH MARKINGS TO SHOW CHANGES MADE

11. (Amended) [The] A computer apparatus [as in claim 10 further] capable of assisting a user in decision-making in respect of a selected domain, comprising:

one or more input interfaces capable of receiving input data representing current information about conditions in a domain;

one or more memories for storing a plurality of items of data about said domain and also

items of data from a database representing information about the domain and information external to the domain;

a decision processor capable of generating output data representing a choice, in accordance with its programmed algorithms, axioms and rules, based on data from said memory and from said input interface(s);

a storage device for storing an operator system algorithm and data;

a computer programmed to compute said operator system algorithm;

one or more user interfaces that enable a user to interact with said decision processor;

wherein said user interface may comprise said input interface;

a connection bus capable of effecting connections among the input interface, the memorie(s), the decision processor(s) and user interface(s); wherein said user interface permits a user to select selectable data and a selectable operator system algorithm, one or more selectable domains, selectable axioms and selectable rules; and wherein said decision processor is capable of generating output data based on said selections made;

an operator system algorithm;

said operator system algorithm with recursive capability;

said operator system algorithm with feedback capability;

said operator system algorithm with capacity to self-modify its operators;

said operator system with capacity to follow a set of rules;

a set of axioms particular to an area of application of said algorithm;

a set of rules particular to a user;

mapped patent information;

mapped technology literature information;

a built technology landscape;  
a built competitive rights landscape;  
multiple search results;  
cross-tabulations of frequencies;  
inferences from general intellectual asset strategy;  
an identify/select-raw-data operator which can select patents;  
a define-terms operator; wherein said operator is applied to output from said  
identify/select-raw-data operator;  
an interrelate-selected-data operator; wherein said operator is applied to output  
from said define-terms operator;  
a score-cells operator; wherein said operator is applied to the output from said  
interrelate-selected-data operator;  
an analyze/score-company-positions operator; wherein said operator is applied to  
the output of the score-cells operator;  
an analyze-results-in-terms-of potential-actions operator; wherein said operator is  
applied to the output of an analyze/score-company-positions operator;  
an evaluate-other-considerations-operator; wherein said operator is applied to the  
output of an analyze-results-in-terms-of potential-actions operator;  
a first feedback operator; wherein said first operator is applied to the output of  
the interrelate-selected-data operator to adjust search terms to be narrower or broader in  
selecting raw data;  
a second feedback operator; wherein said second operator is applied to the output  
of both the evaluate-other-considerations operator and the evaluate-other-considerations  
operator so as to refine results-and-investigate-alternative-actions;  
a first set of defined search terms for searching patent text technical literature;  
patents and technical articles identified by identification number and year of issue,  
for patents, and year of publication for technical articles; wherein said patents and  
technical articles found which contained text with defined search terms;  
a second set of defined search terms; wherein said terms are applied to text of  
patents and technical articles already identified by first set of search terms so as to form a  
two-dimensional matrix;

various sub-scores and scores and sub-indices and indices calculated from content of said matrix;

at least two assignees with at least one of said scores or indices; wherein said scores of each assignee can be compared;

hits defined as the number of cells in which a patent appears;

weighted hits defined as the sum, over the cells, of the quantity: the number of patents in a cell times the weight assigned to that cell;

weighted action defined as the sum, over a search term axis, of the number of search terms rows, or columns, in which a patent appears, where the number of patents appearing in said row, or said column, has been multiplied by a weighting factor for that search term row, or column;

dominance defined as a measure of the percentage of patents, overall, and in recent years assigned to the top 10% of assignees;

recent dominance defined as a measure of the percentage of recent patents, in the last two years, assigned to the top 10% of assignees;

innovation is defined as a measure of recent patent activity for issued and applied patents in a cell;

issued innovation factor is a measure of recent patent activity for issued patents in a cell;

applied innovation factor is a measure of recent patent activity for applied patents in a cell;

predictive innovation is the difference between applied and issued innovation;

predictive innovation factor -1 is defined as:

Innovation Factor 1 =  $(A / ([B + C] / 2))$ ; and

predictive innovation factor -4 is defined as:  $\text{Innov. Fct. 4} = (1/21)\{6(A-B)/B + 5(B-C)/C + 4(C-D)/D + 3(D-E)/E + 2(E-F)/F + 1(F-G)/G\}$ .

12. The apparatus as in claim 11 further comprising:

average dominance (AvDom) defined as  $\text{AvDom} = \frac{1}{2} (\text{dominance quartile} + \text{recent dominance quartile})$ ;

average innovation (AvInn ) defined as  $AvInn = \frac{1}{2}$  (issued innovation quartile + applied innovation quartile); and

PredInn is defined as a predictive innovation quartile, for a calculated predictive innovation.

13. The apparatus as in claim 12 further comprising:

cell selection index (CSI) defined as:  $CSI = (AvDom) \cdot (AvInn) \cdot (PredInn)$ ; and

assignee composite score(ACS) defined as:  $ACS = H1 \cdot CSI$

where the H1 factor is multiplied by the Cell Selection Index, CSI, and where:

$H1 = (\text{hits in field} / \text{patents in field}) \cdot \text{patents in cell} +$

$(\text{recent hits in field} / \text{recent patents in field}) \cdot \text{recent patents in cell}.$

14. The apparatus as in claim 13 further comprising:

assignee field index (AFI) defined as:  $AFI = H \cdot PerCentAHP \cdot Aver.$ ,

where:

$H = \frac{1}{2} [ (\text{An Assignee's Hits} / \text{An Assignee's Patents}) + (\text{An Assignee's Recent Hits} / \text{An Assignee's Recent Patents}) ] ,$

Where:

$PerCentAHP = \text{Percentage of Cells where the Assignee Holds at least one Patent} = (\text{Number of Cells where an Assignee Holds at least one Patent}) / (\text{Total Number of Cells in the Technology Field}),$

And where:  $Aver. = \text{Average (ACI x CSI) across the Technology Field}$

$= (\text{Sum of each (ACI for the given Assignee in each cell in the Technology Field x CSI of the respective cell)}) / (\text{Total Number of Cells in the Technology Field});$  and

standardized assignee field index(sAFI) defined as:  $sAFI = AFI \cdot \text{Standardizing Factor}$

where:  $\text{Standardizing Factor} = 100 / \text{Max}(AFI).$

15. The apparatus as in claim 14 further comprising:

assignee cell index (ACI) defined as:  $ACI = \frac{1}{2}\{AvPCPinCell + AvPCRPinCell\} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000$ ,

where:

$AvPCPinCell$  = Percentage of Patents in a Cell held by an Assignee,

$AvPCRPinCell$  = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

$ACIsI$  = Assignee Cell Issued Innovation,

$ACAppI$  = Assignee Cell Applied Innovation,

where:

Assignee Cell Issued Innovation =  $ACIsI = (1/21)\{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$

where:

A = the number of patents issued within one year of the last patent issued in the data set; B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

Assignee Cell Applied Innovation =  $ACAppI = (1/21)\{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$ ,

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set; and

standardized assignee cell index (sACI) defined as:

$sACI = ACI \cdot \text{Standardizing Factor}$

where:

$\text{Standardizing Factor} = 100 / \text{Max (ACI)}.$

16. The apparatus as in claim 15 further comprising:

calculated hits, weighted hits, weighted action;

calculated investment, dominance, recent dominance, issued innovation factor, applied innovation factor, predictive innovation factor-1, innovation factor-4;

calculated average dominance, average innovation;

calculated cell selection index, assignee composite score;

calculated assignee field index, standardized assignee field index;

calculated assignee cell index and standardized assignee cell index; and

at least one of said scores or indices for comparison of different assignees.

17. The apparatus as in claim 11 or 12 or 13 or 14 or 15 further comprising:

a cluster wherein said cluster is a group of cells are related by having one or more of same patents appearing in each of said cluster's cells;

a required level of said one or more number of patents in said cluster's cells, in order to define said cluster, is specifiable by a user; and

a cluster may be determined by the arbitrary designation of cells by a user of said designated cells as belonging to a cluster.

20. A method for a decision aid comprising the steps of:

utilizing an operator system algorithm, wherein the operator system algorithm uses an innovation value, a dominance value or both;

including in said operator system algorithm capacity to self-modify its operators;  
and

utilizing a set of axioms particular to an area of application of said algorithm.

21. The method as in claim [19] 20 further comprising the step of:

incorporating into said operator system algorithm recursive capability.

22. The method as in claim [19] 20 further comprising the step of:

incorporating into said operator system algorithm feedback capability.

23. The method as in claim [19] 20 further comprising the step of:

incorporating capability into said operator system to follow a set of rules.

24. The method as in claim [19] 20 further comprising the step of:

utilizing a set of rules particular to a user.

37. [The] A method [as in claim 34 further] for analysis for patents and technical literature comprising the steps of:

defining a first set of search terms for searching patent text technical literature;

applying said search terms to find patents and technical articles by identification number and year of issue, for patents, and year of publication for technical articles;

applying a second set of search terms to patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

defining various sub-scores and scores and sub-indices and indices for said matrix;

calculating various sub-scores and scores and sub-indices and indices for said matrix;

utilizing at least one of said scores or indices for comparison of different assignees;

defining dominance as a measure of the percentage of patents, overall, assigned to the top 10% of assignees;

defining dominance as a measure of the percentage of recent patents, in the last two years, assigned to the top 10% of assignees;

defining innovation as a measure of recent patent activity for issued and applied patents in a cell;

defining issued innovation factor as a measure of recent patent activity for issued patents in a cell;

defining applied innovation factor as a measure of recent patent activity for applied patents in a cell;

defining predictive innovation as the difference between applied and issued innovation;

defining innovation factor -1 as:  $\text{Innovation Factor 1} = (A / ([B + C] / 2))$ ; and

defining innovation factor -4 as:

$\text{Innov. Fct. 4} = (1/21)\{6(A-B)/B + 5(B-C)/C + 4(C-D)/D + 3(D-E)/E + 2(E-F)/F + 1(F-G)/G\}$ .

38. [The] A method [as in claim 36 further] for analysis for patents and technical literature comprising the steps of:

defining a first set of search terms for searching patent text technical literature;

applying said search terms to find patents and technical articles by identification number and year of issue, for patents, and year of publication for technical articles;

applying a second set of search terms to patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

defining various sub-scores and scores and sub-indices and indices for said matrix;

calculating various sub-scores and scores and sub-indices and indices for said matrix;



utilizing at least one of said scores or indices for comparison of different assignees;

defining average dominance (AvDom) as:  $AvDom = \frac{1}{2} (\text{dominance quartile} + \text{recent dominance quartile})$ ;

defining average innovation (AvInn) as:  $AvInn = \frac{1}{2} (\text{issued innovation quartile} + \text{applied innovation quartile})$ ; and

PredInn is defined as a predictive innovation quartile, for a calculated predictive innovation.

39. The method as in claim [36] 38 further comprising the steps of:

defining cell selection index (CSI) as:  $CSI = (AvDom) \cdot (AvInn) \cdot (PredInn)$ ; and

defining assignee composite score (ACS) as:  $ACS = H1 \cdot CSI$

where the H1 factor is multiplied by the Cell Selection Index, CSI, and

where:

$H1 = (\text{hits in field/patents in field}) \cdot \text{patents in cell} + (\text{recent hits in field/recent patents in field}) \cdot \text{recent patents in cell}.$

40. [The] A method [as in claim 37 further] for analysis for patents and technical literature comprising the steps of:

defining a first set of search terms for searching patent text technical literature;

applying said search terms to find patents and technical articles by identification number and year of issue, for patents, and year of publication for technical articles;

applying a second set of search terms to patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

defining various sub-scores and scores and sub-indices and indices for said matrix;

calculating various sub-scores and scores and sub-indices and indices for said matrix;

utilizing at least one of said scores or indices for comparison of different assignees;

defining assignee field index (AFI) as:  $AFI = H1 \cdot \text{PerCentAHP} \cdot \text{Aver.},$

where:

$$H1 = \frac{1}{2} [ (\text{An Assignee's Hits} / \text{An Assignee's Patents}) + (\text{An Assignee's Recent Hits} / \text{An Assignee's Recent Patents}) ],$$

where:

PerCentAHP = Percentage of Cells where the Assignee Holds at least one Patent = (Number of Cells where an Assignee Holds at least one Patent) / (Total Number of Cells in the Technology Field),

and where:

Aver. = Average (ACI x CSI) across the Technology Field

= (Sum of each (ACI for the given Assignee in each cell in the Technology Field x CSI of the respective cell)) / (Total Number of Cells in the Technology Field); and

defining standardized assignee field index (sAFI) as:

sAFI = AFI • Standardizing Factor

where:

Standardizing Factor = 100 / Max(AFI).

41. [The] A method [as in claim 38 further] for analysis for patents and technical literature comprising the steps of:

defining a first set of search terms for searching patent text technical literature;

applying said search terms to find patents and technical articles by identification number and year of issue, for patents, and year of publication for technical articles;

applying a second set of search terms to patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

defining various sub-scores and scores and sub-indices and indices for said matrix;

calculating various sub-scores and scores and sub-indices and indices for said matrix;

utilizing at least one of said scores or indices for comparison of different assignees;

defining assignee cell index (ACI) as:

$$ACI = \frac{1}{2} \{ AvPCPinCell + AvPCRPinCell \} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000,$$

where:

AvPCPinCell = Percentage of Patents in a Cell held by an Assignee,

AvPCRPinCell = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

ACIsI = Assignee Cell Issued Innovation,

ACAppI = Assignee Cell Applied Innovation,

where:

$$\text{Assignee Cell Issued Innovation} = ACIsI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$$

where:

A = the number of patents issued within one year of the last patent issued in the data set; B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

$$\text{Assignee Cell Applied Innovation} = ACAppI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \},$$

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set; and

defining standardized assignee cell index (sACI) as:  $sACI = ACI \cdot \text{Standardizing Factor}$

where:

Standardizing Factor =  $100 / \text{Max (ACI)}$ .

42. [The] A method [as in claim 39 further] for analysis for patents and technical literature comprising the steps of:

defining a first set of search terms for searching patent text technical literature;

applying said search terms to find patents and technical articles by identification number and year of issue, for patents, and year of publication for technical articles;

applying a second set of search terms to patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

defining various sub-scores and scores and sub-indices and indices for said matrix;

calculating various sub-scores and scores and sub-indices and indices for said matrix;

utilizing at least one of said scores or indices for comparison of different assignees;

calculating hits, weighted hits, weighted action;

calculating investment, dominance, recent dominance, issued innovation factor, applied innovation factor, innovation factor -1, innovation factor-4;

calculating average dominance, average innovation;  
calculating cell selection index, assignee composite score;  
calculating assignee field index, standardized assignee field index;  
calculating assignee cell index and standardized assignee cell index; and  
utilizing at least one of said scores or indices for comparison of different assignees.

43. The method as in [claim 35 or 36] claims 37 or 38 or 39 or 40 or 41 further comprising:

designating a cluster wherein said cluster is a group of cells are related by having one or more of same patents appearing in each of said cluster's cells;

specifying a required, by the user, level of said one or more number of patents in said cluster's cells, in order to define said cluster; and

determining a cluster by the arbitrary designation of cells by a user of said designated cells as belonging to a cluster.

45. A computer-based decision-aid system comprising:

an operator system algorithm, wherein the operator system algorithm uses an innovation value, a dominance value or both;

said operator system algorithm with capacity to self-modify its operators;

a set of axioms particular to an area of application of said algorithm; and

a computer.

46. The computer-based decision-aid system as in claim [43] 45 further comprising:

said operator system algorithm with recursive capability[;

a computer].

47. The computer-based decision-aid system as in claim [43] 45 further comprising:

said operator system algorithm with feedback capability[;

a computer].

48. The computer-based decision-aid system as in claim [43] 45 further comprising  
said operator system programmed to follow a set of rules[;  
a computer].

49. The computer-based decision-aid system as in claim [46] 45 further comprising:  
said set of rules particular to a user[;  
a computer].

62. [The] A computer-based system [as in claim 59 further] for analysis of patents and technical literature comprising:

a first set of defined search terms for searching patent text technical literature;

patents and technical articles identified by identification number and year of issue, for patents, and year of publication for technical articles; wherein said patents and technical articles found which contained text with defined search terms;

a second set of defined search terms; wherein said terms are applied to text of patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

various sub-scores and scores and sub-indices and indices calculated from content of said matrix;

at least two assignees with at least one of said scores or indices; wherein said scores of each assignee can be compared;

a computer;

dominance defined as a measure of the percentage of patents, overall, and in recent years assigned to the top 10% of assignees;

recent dominance defined as a measure of the percentage of recent patents, in the last two years, assigned to the top 10% of assignees;

innovation is defined as a measure of recent patent activity for issued and applied patents in a cell;

issued innovation factor is a measure of recent patent activity for issued patents in a cell;

applied innovation factor is a measure of recent patent activity for applied patents in a cell;

predictive innovation is the difference between applied and issued innovation;

predictive innovation factor -1 is defined as:  $\text{Innovation Factor 1} = (A / ([B + C] / 2))$ ; and

predictive innovation factor -4 is defined as:  $\text{Innov. Fct. 4} = (1/21)\{6(A-B)/B + 5(B-C)/C + 4(C-D)/D + 3(D-E)/E + 2(E-F)/F + 1(F-G)/G$ ;

a computer].

63. The system as in claim 60 further comprising:

average dominance (AvDom) defined as  $\text{AvDom} = \frac{1}{2} (\text{dominance quartile} + \text{recent dominance quartile})$ ;

average innovation (AvInn) defined as  $\text{AvInn} = \frac{1}{2} (\text{issued innovation quartile} + \text{applied innovation quartile})$ ; and

PredInn is defined as a predictive innovation quartile, for a calculated predictive innovation[;

a computer].

64. The system as in claim [61] 63 further comprising:

cell selection index (CSI) defined as:  $\text{CSI} = (\text{AvDom}) \cdot (\text{Av Inn}) \cdot (\text{PredInn})$ ; and

assignee composite score(ACS) defined as:  $\text{ACS} = \text{H1} \cdot \text{CSI}$

where the H1 factor is multiplied by the Cell Selection Index, CSI, and where:

$\text{H1} = (\text{hits in field/patents in field}) \cdot \text{patents in cell} +$

$(\text{recent hits in field/recent patents in field}) \cdot \text{recent patents in cell}$ ;

a computer].

65. [The] A computer-based system [as in claim 62 further] for analysis of patents and technical literature comprising:

a first set of defined search terms for searching patent text technical literature;

patents and technical articles identified by identification number and year of issue, for patents, and year of publication for technical articles; wherein said patents and technical articles found which contained text with defined search terms;

a second set of defined search terms; wherein said terms are applied to text of patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

various sub-scores and scores and sub-indices and indices calculated from content of said matrix;

at least two assignees with at least one of said scores or indices; wherein said scores of each assignee can be compared;

a computer;

assignee field index (AFI) defined as:  $AFI = H \cdot \text{PerCentAHP} \cdot \text{Aver.}$ ,

where:

$H = \frac{1}{2} [ (\text{An Assignee's Hits} / \text{An Assignee's Patents}) + (\text{An Assignee's Recent Hits} / \text{An Assignee's Recent Patents}) ]$ ,

Where:

$\text{PerCentAHP} = \text{Percentage of Cells where the Assignee Holds at least one Patent} = (\text{Number of Cells where an Assignee Holds at least one Patent}) / (\text{Total Number of Cells in the Technology Field}),$

And where:  $\text{Aver.} = \text{Average (ACI x CSI) across the Technology Field}$

$= (\text{Sum of each (ACI for the given Assignee in each cell in the Technology Field x CSI of the respective cell)}) / (\text{Total Number of Cells in the Technology Field});$  and

standardized assignee field index(sAFI) defined as:  $sAFI = AFI \cdot \text{Standardizing Factor}$

where:  $\text{Standardizing Factor} = 100 / \text{Max}(AFI)[;$

a computer].

66. [The] A computer-based system [as in claim 63 further] for analysis of patents and technical literature comprising:

a first set of defined search terms for searching patent text technical literature;



patents and technical articles identified by identification number and year of issue, for patents, and year of publication for technical articles; wherein said patents and technical articles found which contained text with defined search terms;

a second set of defined search terms; wherein said terms are applied to text of patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

various sub-scores and scores and sub-indices and indices calculated from content of said matrix;

at least two assignees with at least one of said scores or indices; wherein said scores of each assignee can be compared;

a computer;

assignee cell index (ACI) defined as:  $ACI = \frac{1}{2} \{AvPCPinCell + AvPCRPinCell\} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000$ ,

where:

AvPCPinCell = Percentage of Patents in a Cell held by an Assignee,

AvPCRPinCell = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

ACIsI = Assignee Cell Issued Innovation,

ACAppI = Assignee Cell Applied Innovation,

where:

Assignee Cell Issued Innovation =  $ACIsI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$

where:

A = the number of patents issued within one year of the last patent issued in the data set;

B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two

years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

$$\text{Assignee Cell Applied Innovation} = \text{ACAppI} = (1/21)\{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \},$$

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set; and

standardized assignee cell index (sACI) defined as:

$$\text{sACI} = \text{ACI} \cdot \text{Standardizing Factor}$$

where: Standardizing Factor =  $100 / \text{Max (ACI)}$ ;

a computer].

67. [The] A computer-based system [as in claim 64 further] for analysis of patents and technical literature comprising:

a first set of defined search terms for searching patent text technical literature;

patents and technical articles identified by identification number and year of issue, for patents, and year of publication for technical articles; wherein said patents and technical articles found which contained text with defined search terms;

a second set of defined search terms; wherein said terms are applied to text of patents and technical articles already identified by first set of search terms so as to form a two-dimensional matrix;

various sub-scores and scores and sub-indices and indices calculated from content of said matrix;

at least two assignees with at least one of said scores or indices; wherein said scores of each assignee can be compared;

a computer;

calculating hits, weighted hits, weighted action;

calculating investment, dominance, recent dominance, issued innovation factor, applied innovation factor, predictive innovation factor -1, innovation factor-4;

calculating average dominance, average innovation;

calculating cell selection index, assignee composite score;

calculating assignee field index, standardized assignee field index;

calculating assignee cell index and standardized assignee cell index; and

utilizing at least one of said scores or indices for comparison of different assignees[;

a computer].

68. The system as in claim [60 or 61 or] 62 or 63 or 64 or 65 or 66 further comprising:

designating a cluster wherein said cluster is a group of cells are related by having one or more of same patents appearing in each of said cluster's cells;

specifying a required, by the user, level of said one or more number of patents in said cluster's cells, in order to define said cluster; and

determining a cluster by the arbitrary designation of cells by a user of said designated cells as belonging to a cluster.

New claims.

73. A method of assisting a user in decision making, comprising the steps of:  
performing multiple searches of a database according to predetermined criteria;  
generating responsive data from a search;  
mapping the responsive data to cells;  
forming a matrix from the cells;  
calculating innovation;  
calculating dominance; and  
applying at least one algorithm to the responsive data, innovation and dominance  
to determine the impact on a data field.
74. The method of claim 73, wherein the at least one algorithm comprises an  
Assignee Cell Index (ACI).
75. The method of claim 73, wherein the at least one algorithm yields a value for a  
cell showing an area in which an entity is concentrating and its position relative to other  
entities within the cell.
76. The method of claim 73, wherein the at least one algorithm comprises a Cell  
Selection Index (CSI).
77. The method of claim 73, wherein the at least one algorithm scores each cell with  
respect to a strategic decision based upon innovation, dominance and predictive  
innovation.
78. The method of claim 76, wherein the at least one algorithm further comprises an  
Assignee Composite Score (ACS).
79. The method of claim 73, wherein the at least one algorithm shows an entity's  
position relative to other entities within at least one cell.

80. The method of claim 74, wherein the at least one algorithm further comprises an Assignee Field Index (AFI), wherein a Cell Selection Index (CSI) is calculated.

81. The method of claim 73, wherein the at least one algorithm shows an entity's competitive position and investment activities in an area of concentration.

82. The method of claim 74, wherein the ACI is defined as:

$$ACI = \frac{1}{2} \{AvPCPinCell + AvPCRPinCell\} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000,$$

where:

AvPCPinCell = Percentage of Patents in a Cell held by an Assignee,

AvPCRPinCell = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

ACIsI = Assignee Cell Issued Innovation,

ACAppI = Assignee Cell Applied Innovation,

where:

$$\text{Assignee Cell Issued Innovation} = ACIsI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$$

where:

A = the number of patents issued within one year of the last patent issued in the data set; B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than

four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

$$\text{Assignee Cell Applied Innovation} = \text{ACAppI} = (1/21)\{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \},$$

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set.

83. The method of claim 82, further comprising the step of standardizing the Assignee Cell Index.

84. The method of claim 82, wherein the ACI is standardized.

85. The method of claim 82, wherein the ACI is standardized as follows:

$$sACI = ACI \cdot \text{Standardizing Factor}$$

where:

$$\text{Standardizing Factor} = 100 / \text{Max (ACI)}.$$

86. The method of claim 76, wherein the CSI is defined as:

$$CSI = (\text{AvDom})(\text{AvInn})(\text{PredInn}),$$

where:

average dominance (AvDom) =  $\frac{1}{2}$  (dominance quartile + recent dominance quartile);

average innovation (AvInn) =  $\frac{1}{2}$  (issued innovation quartile + applied innovation quartile); and

predictive innovation (PredInn) is as innovation quartile, for a calculated predictive innovation.

87. The method of claim 78, wherein the ACS is defined as:

$$ACS = H1(CSI),$$

where the H1 factor is defined as:  $H1 = (\text{hits in matrix} / \text{patents in matrix})(\text{patents in cell}) + (\text{recent hits in matrix} / \text{recent patents in matrix})(\text{recent patents in cell})$ .

88. The method of claim 80, wherein the AFI is defined as:

$$AFI = H(\text{PerCentAHP})(\text{Aver}),$$

where:

$H = \frac{1}{2}[(\text{an assignee's hits} / \text{an assignee's patents}) + (\text{an assignee's recent hits} / \text{an assignee's recent patents})]$ ,

where:

$\text{PerCentAHP} = \text{Percentage of cells where the assignee holds at least one patent} = (\text{number of cells where an assignee holds at least one patent}) / (\text{total number of cells in the matrix})$ ,

and where:

$\text{Aver.} = \text{Average (ACI x CSI) across the matrix} = (\text{sum of each (ACI for the given assignee in each cell in the matrix x CSI of the respective cell)}) / (\text{total number of cells in the matrix})$ .

89. The method of claim 88, further comprising the step of standardizing the Assignee Field Index (sAFI).

90. The method of claim 88, wherein the AFI is standardized.

91. The method of claim 88, wherein the AFI is standardized as follows:  
 $sAFI = AFI \times \text{standardizing factor}$ , where:  $\text{standardizing factor} = 100/\text{Max}(AFI)$ .
92. The method of claim 73, further comprising the step of:  
creating a cluster, wherein the cluster is defined by the designation of cells or by setting a required level of one or more patents to be present in each cell within the cluster.
93. A computer system capable of assisting a user in decision-making, the computer system comprising:  
at least one input interface capable of receiving input data;  
at least one memory for storing data;  
a decision processor capable of generating output data;  
at least one user interface that enables a user to interact with the decision processor; and  
a connection bus creating connections among the input interface, memory, decision processor, and user interface,  
wherein the decision processor performs multiple searches of a database according to predetermined criteria, generates responsive data from a search, maps the responsive data to cells, forms a matrix from the cells, calculates innovation, calculates dominance, and applies at least one algorithm to the responsive data, innovation and dominance to determine the impact on a data field.
94. The computer system of claim 93, wherein the at least one algorithm comprises an Assignee Cell Index (ACI).
95. The computer system of claim 93, wherein the at least one algorithm yields a value for a cell showing an area in which an entity is concentrating and its position relative to other entities within the cell.
96. The computer system of claim 93, wherein the at least one algorithm comprises a Cell Selection Index (CSI).



97. The computer system of claim 93, wherein the at least one algorithm scores each cell with respect to a strategic decision based upon innovation, dominance and predictive innovation.

98. The computer system of claim 96, wherein the at least one algorithm further comprises an Assignee Composite Score (ACS).

99. The computer system of claim 93, wherein the at least one algorithm shows an entity's position relative to other entities within at least one cell.

100. The computer system of claim 94, wherein the at least one algorithm further comprises an Assignee Field Index (AFI), wherein a Cell Selection Index (CSI) is calculated.

101. The computer system of claim 93, wherein the at least one algorithm shows an entity's competitive position and investment activities in an area of concentration.

102. The computer system of claim 94, wherein the ACI is defined as:

$$ACI = \frac{1}{2} \{AvPCPinCell + AvPCRPinCell\} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000,$$

where:

AvPCPinCell = Percentage of Patents in a Cell held by an Assignee,

AvPCRPinCell = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

ACIsI = Assignee Cell Issued Innovation,

ACAppI = Assignee Cell Applied Innovation,

where:

$$\text{Assignee Cell Issued Innovation} = \text{ACIsI} = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$$

where:

A = the number of patents issued within one year of the last patent issued in the data set; B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

$$\text{Assignee Cell Applied Innovation} = \text{ACAppI} = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \},$$

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set.

103. The computer system of claim 102, further comprising the step of standardizing the Assignee Cell Index.

104. The computer system of claim 102, wherein the ACI is standardized.

105. The computer system of claim 102, wherein the ACI is standardized as follows:

$$sACI = ACI \cdot \text{Standardizing Factor}$$

where:

$$\text{Standardizing Factor} = 100 / \text{Max (ACI)}.$$

106. The computer system of claim 96, wherein the CSI is defined as:

$$CSI = (AvDom)(AvInn)(PredInn),$$

where:

average dominance (AvDom) =  $\frac{1}{2}$  (dominance quartile + recent dominance quartile);

average innovation (AvInn) =  $\frac{1}{2}$  (issued innovation quartile + applied innovation quartile); and

predictive innovation (PredInn) is as innovation quartile, for a calculated predictive innovation.

107. The computer system of claim 98, wherein the ACS is defined as:

$$ACS = H1(CSI),$$

where the H1 factor is defined as:  $H1 = (\text{hits in matrix}/\text{patents in matrix})(\text{patents in cell}) + (\text{recent hits in matrix}/\text{recent patents in matrix})(\text{recent patents in cell})$ .

108. The computer system of claim 100, wherein the AFI is defined as:

$$AFI = H(\text{PerCentAHP})(\text{Aver}),$$

where:

$H = \frac{1}{2}[(\text{an assignee's hits}/\text{an assignee's patents}) + (\text{an assignee's recent hits}/\text{an assignee's recent patents})]$ ,

where:

$$\text{PerCentAHP} = \text{Percentage of cells where the assignee holds at least one patent} = (\text{number of cells where an assignee holds at least one patent}) / (\text{total number of cells in the matrix}),$$

and where:

$$\text{Aver.} = \text{Average (ACI x CSI) across the matrix} = (\text{sum of each (ACI for the given assignee in each cell in the matrix x CSI of the respective cell)}) / (\text{total number of cells in the matrix}).$$

109. The computer system of claim 108, further comprising the step of standardizing the Assignee Field Index (sAFI).

110. The computer system of claim 108, wherein the AFI is standardized.

111. The computer system of claim 108, wherein the AFI is standardized as follows:  
$$\text{sAFI} = \text{AFI} \times \text{standardizing factor}, \text{ where: standardizing factor} = 100/\text{Max}(\text{AFI}).$$

112. The computer system of claim 93, further comprising the step of:  
creating a cluster, wherein the cluster is defined by the designation of cells or by setting a required level of one or more patents to be present in each cell within the cluster.

113. A method of assisting a user in decision making, comprising the steps of:  
performing multiple searches of a database according to predetermined criteria;  
generating responsive data from a search;  
mapping the responsive data to cells;  
forming a matrix from the cells; and  
performing at least one calculation,  
wherein the at least one calculation yields an innovation value based on a rule set for the responsive data being analyzed which utilizes chronological information within the database, or  
wherein the at least one calculation yields a dominance value that relates to the diversity of entities to whom data in a cell is assigned, or

wherein the at least one calculation is applying at least one algorithm to the responsive data, the innovation value and dominance value to determine the impact on a data field.

114. The method of claim 113, wherein the at least one algorithm comprises an Assignee Cell Index (ACI).

115. The method of claim 113, wherein the at least one algorithm yields a value for a cell showing an area in which an entity is concentrating and its position relative to other entities within the cell.

116. The method of claim 113, wherein the at least one algorithm comprises a Cell Selection Index (CSI).

117. The method of claim 113, wherein the at least one algorithm scores each cell with respect to a strategic decision based upon innovation, dominance and predictive innovation.

118. The method of claim 116, wherein the at least one algorithm further comprises an Assignee Composite Score (ACS).

119. The method of claim 113, wherein the at least one algorithm shows an entity's position relative to other entities within at least one cell.

120. The method of claim 114, wherein the at least one algorithm further comprises an Assignee Field Index (AFI), wherein a Cell Selection Index (CSI) is calculated.

121. The method of claim 113, wherein the at least one algorithm shows an entity's competitive position and investment activities in an area of concentration.

122. The method of claim 114, wherein the ACI is defined as:

$$ACI = \frac{1}{2} \{AvPCPinCell + AvPCRPinCell\} \cdot [(ACIsI + 100) + (ACAppI + 100)] / 200 \cdot 1000,$$

where:

AvPCPinCell = Percentage of Patents in a Cell held by an Assignee,

AvPCRPinCell = Percentage of Recent Patents in a Cell held by an Assignee),

and where:

Percentage of Patents in a Cell held by an Assignee = (An Assignee's Patents in a Cell / Total Patents in a Cell),

Percentage of Recent Patents in a Cell held by an Assignee = (An Assignee's Recent Patents in a Cell / Total Recent Patents in a Cell),

and where:

ACIsI = Assignee Cell Issued Innovation,

ACAppI = Assignee Cell Applied Innovation,

where:

$$\text{Assignee Cell Issued Innovation} = ACIsI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \}$$

where:

A = the number of patents issued within one year of the last patent issued in the data set; B = the number of patents issued more than one year but less than two years prior to the issuing of last patent in the data set; C = the number of patents issued more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents issued more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents issued more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents issued more than six years but less than seven years prior to the issuing of last patent in the data set;

where:

$$\text{Assignee Cell Applied Innovation} = ACAppI = (1/21) \{ [A-B]/B \cdot 6 + [B-C]/C \cdot 5 + [C-D]/D \cdot 4 + [D-E]/E \cdot 3 + [E-F]/F \cdot 2 + [F-G]/G \cdot 1 \},$$

where:

A = the number of patents applied within one year of the last patent issued in the data set; B = the number of patents applied more than one year but less than two years prior to the issuing of last patent in the data issuing set; C = the number of patents applied more than two years but less than three years prior to the issuing of last patent in the data set; D = the number of patents issued applied more than three years but less than four years prior to the issuing of last patent in the data set; E = the number of patents applied more than four years but less than five years prior to the issuing of last patent in the data set; F = the number of patents applied more than five years but less than six years prior to the issuing of last patent in the data set; G = the number of patents applied more than six years but less than seven years prior to the issuing of last patent in the data set.

123. The method of claim 122, further comprising the step of standardizing the Assignee Cell Index.

124. The method of claim 122, wherein the ACI is standardized.

125. The method of claim 122, wherein the ACI is standardized as follows:

$$sACI = ACI \cdot \text{Standardizing Factor}$$

where:

$$\text{Standardizing Factor} = 100 / \text{Max (ACI)}.$$

126. The method of claim 116, wherein the CSI is defined as:

$$CSI = (AvDom)(AvInn)(PredInn),$$

where:

average dominance (AvDom) =  $\frac{1}{2}$  (dominance quartile + recent dominance quartile);

average innovation (AvInn) =  $\frac{1}{2}$  (issued innovation quartile + applied innovation quartile); and

predictive innovation (PredInn) is as innovation quartile, for a calculated predictive innovation.

127. The method of claim 118, wherein the ACS is defined as:

$$ACS = H1(CSI),$$

where the H1 factor is defined as:  $H1 = (\text{hits in matrix} / \text{patents in matrix})(\text{patents in cell}) + (\text{recent hits in matrix} / \text{recent patents in matrix})(\text{recent patents in cell})$ .

128. The method of claim 120, wherein the AFI is defined as:

$$AFI = H(\text{PerCentAHP})(\text{Aver}),$$

where:

$H = \frac{1}{2}[(\text{an assignee's hits} / \text{an assignee's patents}) + (\text{an assignee's recent hits} / \text{an assignee's recent patents})]$ ,

where:

$\text{PerCentAHP} = \text{Percentage of cells where the assignee holds at least one patent} = (\text{number of cells where an assignee holds at least one patent}) / (\text{total number of cells in the matrix})$ ,

and where:

$\text{Aver.} = \text{Average (ACI x CSI) across the matrix} = (\text{sum of each (ACI for the given assignee in each cell in the matrix x CSI of the respective cell)}) / (\text{total number of cells in the matrix})$ .

129. The method of claim 128, further comprising the step of standardizing the Assignee Field Index (sAFI).

130. The method of claim 128, wherein the AFI is standardized.

131. The method of claim 128, wherein the AFI is standardized as follows:

$$sAFI = AFI \times \text{standardizing factor, where: standardizing factor} = 100 / \text{Max}(AFI).$$

132. The method of claim 113, further comprising the step of:

creating a cluster, wherein the cluster is defined by the designation of cells or by setting a required level of one or more patents to be present in each cell within the cluster.



133. The method of claim 73 or 113, wherein innovation is Innovation Factor 4 and defined as:  $\text{Innov. Fct. 4} = (1/21)[6(A-B)/B + 5(B-C)/C + 4(C-D)/D + 3(D-E)/E + 2(E-F)/F + 1(F-G)/G]$ .

134. The method of claim 73 or 113, wherein dominance is defined as the majority of entities within a cell.

135. The method of claim 134, wherein dominance is the top 10% of entities within the cell.

136. The system of claim 93, wherein innovation is Innovation Factor 4 and defined as:  $\text{Innov. Fct. 4} = (1/21)[6(A-B)/B + 5(B-C)/C + 4(C-D)/D + 3(D-E)/E + 2(E-F)/F + 1(F-G)/G]$ .

137. The system of claim 93, wherein dominance is defined as the majority of entities within a cell.

138. The system of claim 93, wherein dominance is the top 10% of entities within the cell.